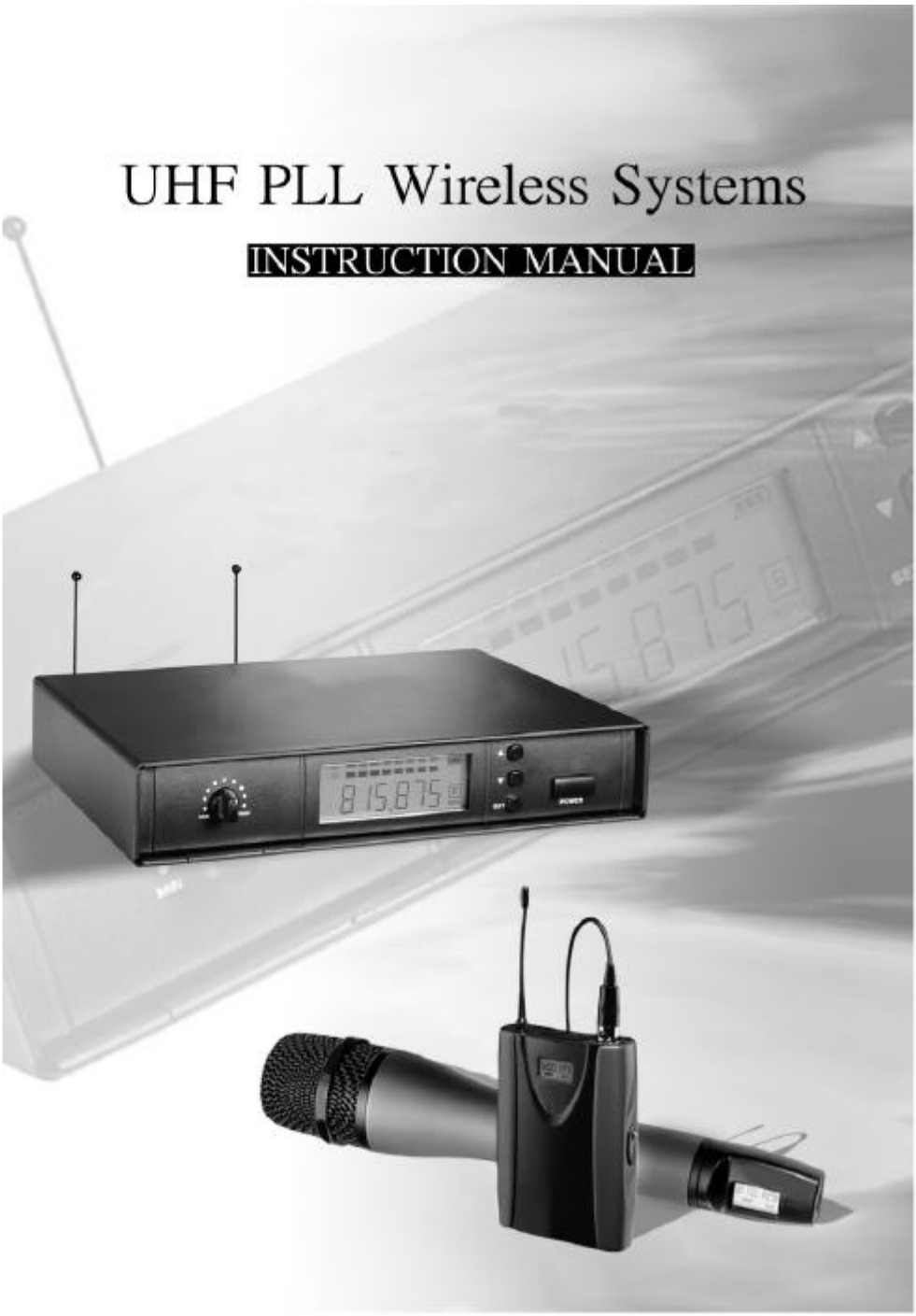
UHF PLL Wireless Systems

INSTRUCTION MANUAL



GM-901D-01

TABLE CONTENTS

Thank you for choosing the wireless system. In order to obtain the best efficiency from the system, you are recommended to take few minutes to read this instruction manual carefully.

1. Important Cautions

1-1 Always make all connections before plugging the unit into an AC power outlet.

1-2 Do not leave the devices in a place neither with high temperature nor high humidity.

1-3 Always do not handle the power cord with wet hands !

1-4 Keep the devices away from fire and heat sources.

2. Features

* Operated in UHF band where there is less RF interference than the VHF band.
* Due to the PLL synthesized technology, the system can offer up to 161 selectable frequencies for choosing simultaneously.
* The true diversity reception with 2 independent RF receivers ensure the stable transmission and reception.
* Adjustable Pilot tone squelch control can effectively reduce the noise.
* Tuned antennas can benefit the stable RF reception.
* Built-in Noise Squelch circuity & Mute function are available to restrain the interference for signals.
* Compact half-rack receiver design is considerable for the space saving.
* Rugged metal housing can pass through the difficult environment.
* Equipped with balanced XLR and unbalanced output allow great convenience.
* Anti-interference design is available to work with every computer device.

3. Specification

3-1 Overall System Specification

RF Frequency Range	600MHz~960MHz
Oscillation Type	PLL Synthesized Control OSC
Channels	193 Channels
Audio Frequency Response	50Hz~18KHz
Operation Range	100M

3-2 Receiver

Band-width	24MHz
Frequency Stability	±0.005%
S/N Ratio	> 100dB(1KHz-A)
RF Sensitivity	-107dB (12dB S/N AD)
Image Rejection	> 60dB
T.H.D.(1KHz)	< 0.6%@1KHz
AF Output Impedance	600Ω
Audio Output Level	-12dB
Noise Reduction Type	Noise Mute & Pilot tone
Power Requirement	12-18V DC, 600mA
Output connector	Balanced XLR socket & Unbalanced 6.3mm socket
Dimension	211mm(W)*40mm(H)*152mm(D)

3-3 Handheld Transmitter

Frequency Stability	±0.005%
Modulation Deviation	±48KHz
Spurious Rejection	<-60dBc
RF Output	10mW
Current Consumption	100mA
Operation Voltage	UM3, AA 1.5V *2
Housing Material	Alloy

3-4 Body-pack Transmitter

Frequency Stability	±0.005%
Modulation Deviation	±48KHz
Spurious Rejection	<-60dBc
RF Output	**70mW**
Current Consumption	100mA
Operation Voltage	UM3, AA 1.5V *2
Output Connector	Mini XLR socket
Housing Material	Alloy

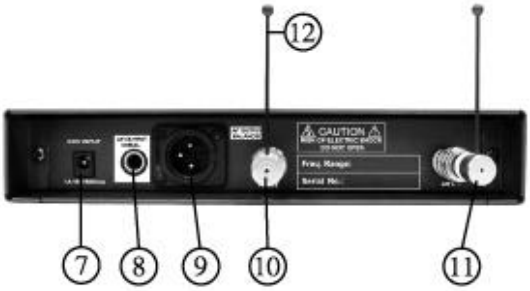
3-5 Condenser Microphone

Type	Lavalier	Headset
Frequency Range	100Hz~12,000Hz	50Hz~18,000Hz
Polar Pattern	Cardioid	Cardioid
Sensitivity(at 1 kHz)	-70dB±3dB	-70dB±3dB
Impedance	2kΩ ±30%	680 Ω±30%
Max SPL for 1%THD	130dB	130dB
Connector type	Mini XLR	Mini XLR
Standard Accessories	Windscreen	Windscreen

4. Parts Identification & Accesories

4-1 True-Diversity Receiver

① Power On/Off switch
② Up button
③ Down button
④ Set button
⑤ LCD Display
⑥ Volume control
⑦ DC socket for connection of main unit
⑧ AF output, jack socket (AF UNBAL)
⑨ AF output, jack socket (AF BAL)
⑩ Antenna II input socket
⑪ Antenna I input socket
⑫ Antenna



4-2.1 Handheld Transmitter

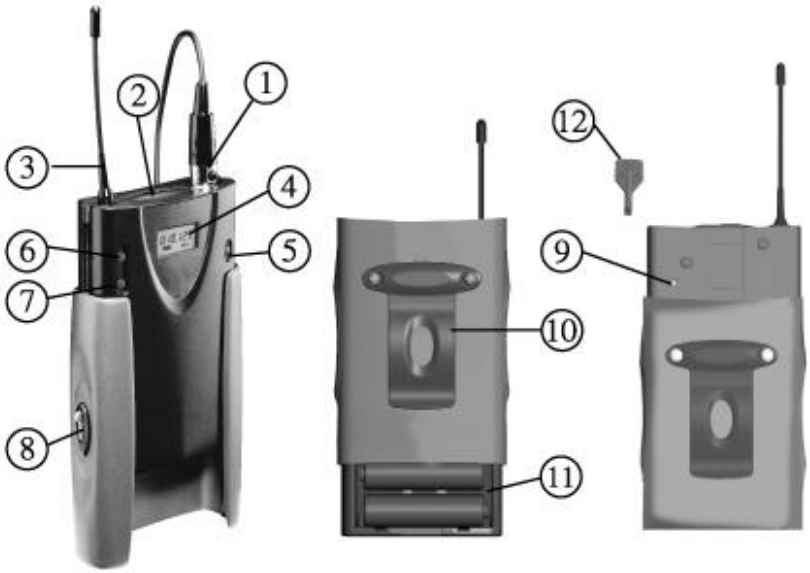
① Interchangeable dynamic capsule
② Battery tray
③ Battery tray button
④ Power On/Off switch
⑤ Set button
⑥ Down button
⑦ Up button
⑧ LCD display

Standard Accessories

① AF output cable
(With unbalanced ∅6.3 plug)
② AC/DC adaptor
③ ID housing
④ Microphone Box
⑤ Microphone Holder

4-2.2 Body-pack Transmitter

① Mic. input
② Power On/off switch
③ Antenna
④ LCD display
⑤ Set button
⑥ Up button
⑦ Down button
⑧ Battery tray button
⑨ AF level control
⑩ Belt clip
⑪ Battery tray
⑫ Audio adjusting sticker



4-3 Condenser Microphone

(1) Lavalier Microphone

① Microphone
② Clip
③ Mini XLR
④ Windscreen

(2) Headset Microphone

① Microphone
② Gooseneck
③ Neck-Frame
④ Mini XLR
⑤ Windscreen

4-4 Optional Accessories

Front Panel

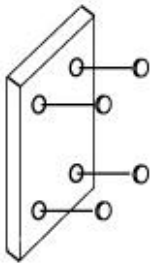
Dual Rack Adaptor

5. Preparing Procedures

(Receiver)

(1.) Settling the rubber pad

Four self-adhesive rubber pads are provided to ensure the stability. They are to be placed on the bottom side of the receiver.

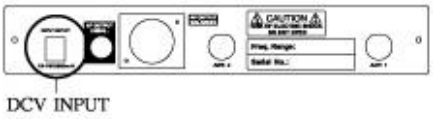


(2.)Connecting the antennas

The user-friendly antenna comes with easy mount on socket for effortless connection. Connect two antennas on the back of the receiver and align them upward.

(3.) Connecting the main unit

Plug in the DC connector on the back of the receiver (DCV INPUT).



(4.) Connecting the amplifier/mixer console

Plug in the amplifier/mixer console to the (AF OUT UNBAL / BAL) sockets.

(5.) Turning the receiver on/off

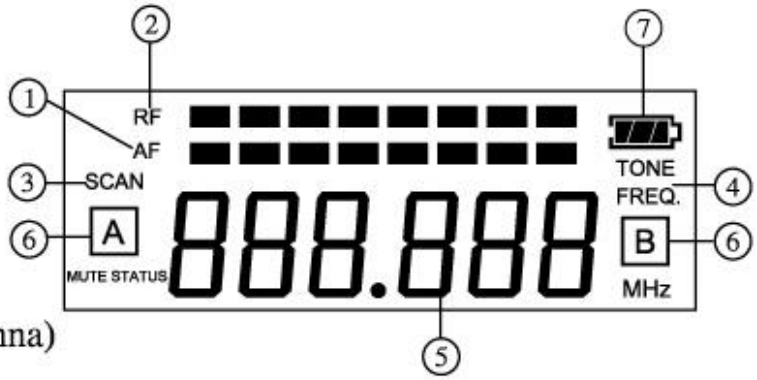
Turn the receiver on by pressing the (POWER) button.

(6.) Adjusting the AF output level

Use the AF output level control located on the front side of the receiver to adjust the AF signal level that appears at output.

(7.) LCD panel

1. AF signal
2. RF signal
3. Display for SCAN mode
4. Display for set FREQ. mode
5. Main display
6. Diversity display (A or B antenna)
7. Battery display for the transmitter



Basic operation

POWER Turning the receiver on and off by pressing the POWER button.

SET Press the SET button for 3 seconds to select frequency and scan.
Press the SET button again to store once you make any changes.
Press the UP or DOWN button to adjust the setting of a menu.

6. Preparing Procedures

Handheld Transmitter

(1) Turning the transmitter on/off

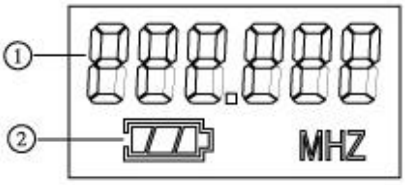
The on/off switch is located on the bottom of the microphone.

(2) Inserting and changing the battery

1. Loosen the microphone head counter-clockwise.
2. Hold on to both battery tray buttons to release it.
3. Insert 2 pieces of UM-3 1.5 V batteries, remember to match correct polarity.
4. Directly push the battery tray back.
5. Aim the connectors exactly for screwing on the microphone head clockwise.

(3) LCD panel

1. Main display
2. Battery indicator



Basic operation

Press the SET button to select between frequency and sensitivity.

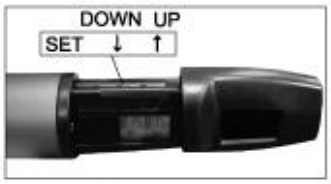
1. Frequency adjusting

Press the UP or DOWN button to adjust the setting of a menu.

-Hold SET button for 3 seconds to activate frequency.

-Once you see "MHZ" blanking, you are ready to select your desired frequency by using UP and DOWN buttons.

-Press the SET button again to store your changes.



2. Sensitivity adjusting

-Press the SET button twice to select sensitivity. Lasting for 3 seconds at the first press, then 1 second for the second press, and the display appears "SenSit".

-Use UP and DOWN buttons to adjust changes.

-Finally press SET button again to store your changes.

UP button to activate "Lock mode"

-Hold on to UP button for 3 seconds to activate "Lock mode", press again to unlock. (Prevent accidental programming or switching off)

7. Preparing Procedures

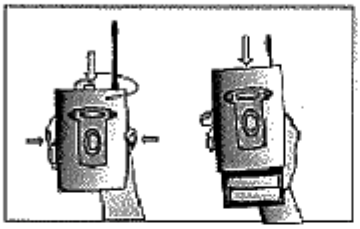
Body-pack Transmitter

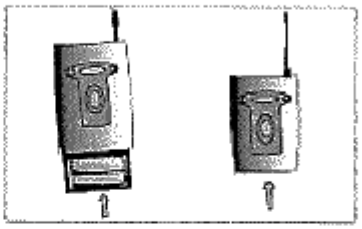
(1.) Turning the transmitter on/off

The on/off switch is located on the top of the transmitter.

(2.) Inserting and changing the battery

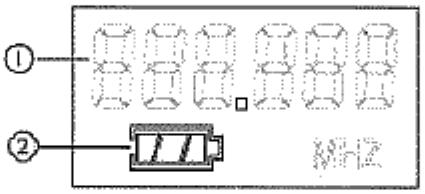
1. The battery tray is located on the back of the transmitter.
2. Hold on to both belt clip buttons to release it.
3. Insert 2 pieces of UM-3 1.5V batteries. Remember to match correct polarity.
4. Directly slide the belt clip back.





(3.) LCD panel

1. Main display
2. Battery indicator



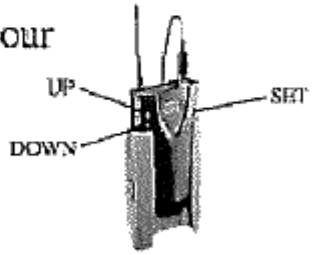
Basic operation

1. Frequency adjusting

-Hold SET button for 3 seconds to activate frequency.

-Once you see "MHZ" blanking, you are ready to select your desired frequency by using UP and DOWN buttons.

-Press the SET button again to store your changes.



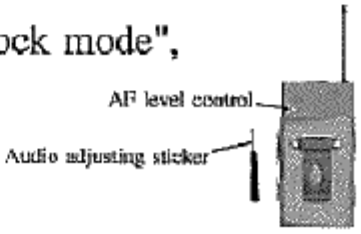
2. Sensitivity adjusting

-The sensitivity control(AF level control) is in the up-left of the transmitter's back. Please use the adjusting sticker to adjust the proper level.

3. To activate "Lock mode"

-Hold on to UP button for 3 seconds to activate "Lock mode", press again to unlock.

(Prevent accidental programming or switching off)



8. Preparing Procedures Of Condenser Microphone & Accesories

(1) With lavalier microphone

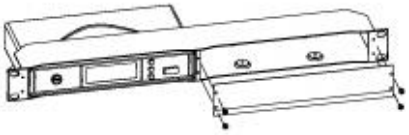
Attach the lavalier mic to clothing, tie, lapel, where is the suitable place of sound pick-up. Plug the mini XLR on the microphone cable into the "MIC. IN" on the pick-up transmitter.

(2) With headset microphone

Put the neck-frame behind your neck meanwhile fix the temples on your ears. Adjust the gooseneck to aim the microphone toward the suitable sound source, which is about 1.5-2 inches distance from your mouth. Plug the mini XLR on the microphone cable into the "MIC. IN" on the body-pack transmitter.

(3) Dual Rack Adaptor Set

The dual rack adaptor is available to unify the half rack space into a standard EIA size with single or dual units.



9. Recommendation

1. In order to achieve the optimum reception condition and also extend the operating distance, please leave a "open space" between the receiver and transmitter.
2. Keep the devices away from the metal objects or any interference sources, at least 50 cm.
3. To avoid the feed-back effect, don't leave the mic. to aim at the speakers directly.
4. For best pick-up pattern, please hold the middle of the mic. body.
5. Remove batteries from the battery compartment when the transmitter will not be used for a long time.
6. When you need to replace the batteries, please replace both batteries at the same time with new ones.

10. LICENSING REQUIREMENTS

This equipment complies with Part 74 of the FCC Rules.

A license is required for operation subjective device will be issued only to the following:

(1) A licensed of an AM, FM, TV or international broadcast station or low power TV station. Low power auxiliary stations will be licensed for used with a specific broadcast or low power TV station or combination of stations licensed to the same licensee within the same community.
(2) A broadcast network entity.
(3) A cable television system operator who operates a cable system that produces program material for origination or access cablecasting as defined in §76.5(r).
(4) Motion picture producers as defined in §74.801.
(5) Television program producers as defined in §74.801.
(6) Licensees an conditional licensees of stations in the Multipoint Distribution service and Multichannel Multipoint Distribution Service as defined in §21.2 of this chapter, or entities that hold an executed lease agreement with an MDS or MMDS licensee or conditional licensee or with an Instructional Television Fixed service licensee or permitted.